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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/674,994	12/13/2000	Mark Alperovich	109289.00164	9118

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EXAMINER	
ANGEBRANNDT, MARTIN J	
ART UNIT	**PAPER NUMBER**
1756	9

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/674,994	ALPEROVICH ET AL.	
	Examiner	Art Unit	
	Martin J Angebranndt	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

1. The response provided by the applicant has been read and given careful consideration. Responses to the arguments of the applicant are provided after the first rejection to which they are directed.

2 The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3 Claims 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 15, at line 2, after "ethyl cellulose,", please insert - - and - - .

In claim 15 at line 3 please replace ", vinyl resins, including" with - -, and the vinyl resins are selected from the group consisting of - - . vinyl resins are not cellulose ethers.

This is a new issue.

4 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C.

122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6 Claims 8 and 9 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Santo et al. '233.

Examples 1-4 mix the dye and free radical generating species together in a single layer without a polymer binder. The use of various dyes, including xanthene, azine, cyanine, indigoid, phthalocyanine dyes and other are disclosed. (4/18-35). Useful free radical generating compounds including AIBN, bromobenzene diazohydroxide, benzoyl peroxide, t-dibutyl peroxide, cumene hydroperoxide. (4/45-68). The use of these in amounts of 0.1-50% is disclosed. (3/1-13). The addition of a binder to improve the film forming properties and increasing the stability of the coated layer. (6/6-8). Useful binders including nitrocellulose, cellulose acetate, cellulose acetate butyrate, methyl cellulose, ethyl cellulose, butyl cellulose, vinyl resins, PVA, PVAc, PVB, PVP, acrylates methacrylates and the like are disclosed. (6/25-56). The dissolving or *dispersing* of the dye into an organic solvent, such as alcohols, ketones, amides, sulfoxides, ethers, esters, halogenated alkanes and the like, is disclosed. (6/8-25).

Examples 5-8 coat the dye on the substrate, followed by a mixture of the free radical generating compound (such as AIBN) and nitrocellulose. Examples 9-12 coat a mixture of the free radical generating compound (such as AIBN) and nitrocellulose as the first recording layer and the dye as the second recording layer.

Examples 5-8 and 9-12 meet the limitations of claims 8 and 9 respectively.

The applicant argues that fluorescent dyes are not disclosed. **The examiner holds that the xanthene, azine, cyanine, indigoid, phthalocyanine and other dyes disclosed at 4/18-35 in the reference are inherently fluorescent (due to aromaticity). The examiner further notes that some of these are listed as fluorescent dyes in claim 2. Therefore the arguments that these are not fluorescent conflicts both the applicant's own specification and claims.** The part of the reference indicated by the applicant does not state that these dyes are not fluorescent. Furthermore, the reproducing light is not neccesarily the same as the writing light. The applicant fails to appreciate that fluorescence may not occur for every absorption. Those of particular interest for aromatic compounds tend to be in the UV region. The rejection stands.

7 Claims 1-4,7-9 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santo et al. '233.

It would have been obvious to one skilled in the art to add a binder to examples 1-4 to gain the advantages in coating and film forming properties disclosed. The examiner holds that the disclosed dispersion of the components in the solvent meets the limitation of claim 7 and notes that the solvents and solutes disclosed are the same as those of the references.

The rejection stands for the reasons provided above.

8 Claims 1-9 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santo et al. '233, in view of Namba et al. '231.

Namba et al. '231 teaches the use of dye mixtures to increase the wavelength/spectral sensitivity of optical recording media. The use of various dyes is disclosed (2/64-66 and tables I,II and III). the use of fluorescent dyes including rhodamines, fluorescein (table I) and cyanines

dyes (table III) are disclosed. The result is that these media can be written using a wider range of wavelengths. (3/10-20).

It would have been obvious to one of ordinary skill in the art to add other dyes to sensitize the image-wise free radical degradation of the dyes to increase the utility of the recording medium through its ability to be used with other lasers/light sources than is possible with only a single dye.

The rejection stands for the reasons provided above.

9 Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santo et al. '233, in view of Namba et al. '231 combined with Glushko et al. '065 and Russell '031.

Glushko et al. '06 teaches multilayered optical recording media which use fluorescence or lack thereof to indicate a bit of data. The use of fluorescent data layers which are separated by spacer layer is disclosed. (4/31-42).

Russell '031 teaches the use of UV,visible and IR light with the recording media described. (3/34-38) Figures 4-7 exemplify the case where recording layers are different colored materials, such as photographic film, photoluminescent materials or inks.(5/38-52,6/45-52,6/62-7/2 and 7/24-39). The disc shape of the recording media are shown in figures 2 and 3a. These are separated by spacer layers/support materials.

It would have been obvious to use multiple layers of fluorescent recording materials, such as those taught by Santo et al. '233, in view of Namba et al. '231 along with optical filtration on the detection to separate the data from the various layers as taught by Glushko et al. '065 and Russell '031 to enable more data to be stored in an single optical disc structure. . Further it

would have been obvious to use substrate materials to separate them to prevent mixing during coating.

The rejection stands for the reasons provided above.

10 Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Santo et al. '233, in view of Namba et al. '231 combined with Hashida et al. JP 02-076126 and Russell '031.

Hashida et al. JP 02-076126 teaches the use of plural fluorescent recording layers and the use of the differences in the lifetime of emission to differentiate between them.

It would have been obvious to use multiple layers of fluorescent recording materials, such as those taught by Santo et al. '233, in view of Namba et al. '231 along with optical filtration or the differences in fluorescence lifetime in the detection to separate the data from the various layers as taught by Hashida et al. JP 02-076126 and Russell '031 to enable more data to be stored in an single optical disc structure. Further it would have been obvious to use substrate materials to separate them to prevent mixing during coating.

The rejection stands for the reasons provided above.

11 Claims 1,3,4,7,11 and 12 are rejected under 35 U.S.C. 102(b) as being fully anticipated by JP 54-061541.

Each of the three examples on page 3 includes an organic solvent, a polymeric binder, an oxidizing agent and a merocyanine dye.

The examiner holds that the merocyanine dyes disclosed by JP 54-061541 are inherently fluorescent in the UV. Note this is a class of polymethine/cyanine dyes.

Claim 8 is rejected under 35 U.S.C. 102(b) as being fully anticipated by Sasaoka JP-59-092448.

The dye of the examples Naphthol Green B in the lower layer is bleached by the action of the benzoyl peroxide in the upper layer.

The examiner holds that the Naphthol Green B disclosed by Sasaoka JP-59-092448 is inherently fluorescent in the UV.

12 Claims 8 and 9 are rejected under 35 U.S.C. 102(b) as being fully anticipated by JP 62-239436.

See tables 2 and 3, respectively. (similar to Santo et al. '233)

The examiner holds that the polymethine and cyanine dyes dyes disclosed in tables 2 and 3 are inherently fluorescent in the UV.

13 Claims 1,4,7,11 and 12 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Seava et al. '994, in view of Crivello et al., "Triaryl Sulfonium Salts as Photoinitiators of Free Radical and Cationic Polymerization", J. Polymer Sci." Letters, Vol 17, pp. 759-764, (1979).

Seava et al. '994 in example 5 coats a mixture for an optical disc including a sulfonium salt and a dye in polyvinylphenol. Upon exposure, bleaching of the dyes occurs.

Crivello et al., "Triaryl Sulfonium Salts as Photoinitiators of Free Radical and Cationic Polymerization", J. Polymer Sci." Letters, Vol 17, pp. 759-764, (1979) discloses that in addition to the cationic species formed by sulfonium salts, free radical species are formed. The free radical species are not subject to control by anion choice, but the cationic species are.

The examiner holds that the example meets the claims as the free radical species are generated and contribute to the bleaching of the dye, although Seava et al. '994 fails to appreciate this mechanism known to occur as evidenced by Crivello et al., "Triaryl Sulfonium

Salts as Photoinitiators of Free Radical and Cationic Polymerization", J. Polymer Sci." Letters, Vol 17, pp. 759-764, (1979).

The examiner holds that the indolenic cyanine dyes of example 5 is inherently fluorescent.

14 Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebranndt whose telephone number is 703-308-4397. The examiner can normally be reached on Mondays-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703-308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Martin J Angebranndt
Primary Examiner
Art Unit 1756

September 24, 2002